006280" E266h960

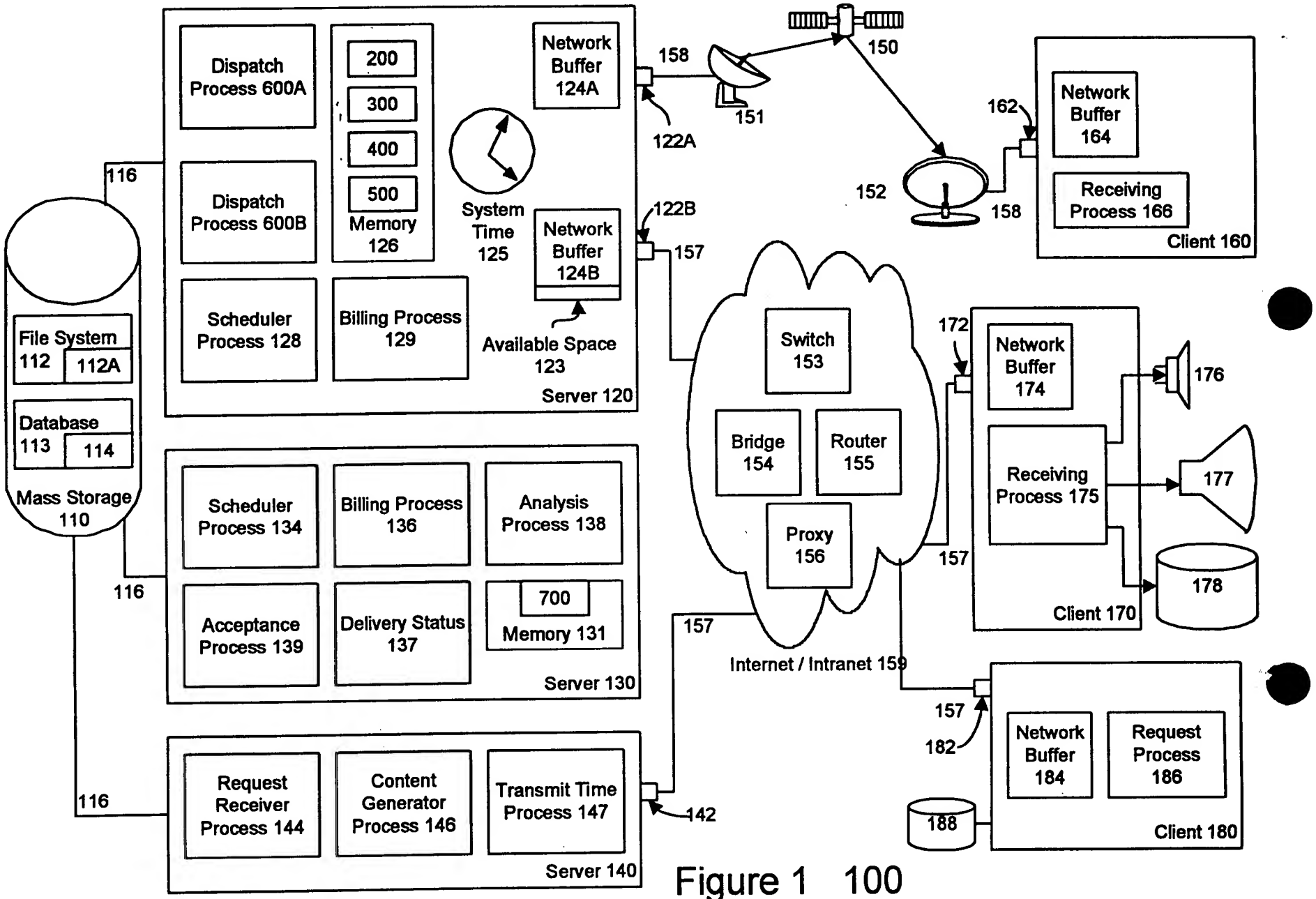

Figure 1 100

200 Transmission decision list
250 Transmission criteria

- 205 index,
- 210 release time,
- 215 portion quantity,
- 220 duration,
- 225 burst size,
- 230 burst rate,
- 235 quantity completion measure,
- 240 status code

Fig. 2

300 File list
350 File list record

- 305 index,
- 310 source file identifier,
- 315 cursor,
- 320 destination address,
- 325 transmission type

Fig. 3

400 History log
450 History record

- 405 index,
- 410 start time stamp,
- 415 status code,
- 420 completion time stamp,
- 425 quantity completion measure

Fig. 4

500 Network use criteria table
550 Network use criteria record

- 505 time stamp,
- 510 defined network use,
- 515 aggregate amount of network use
- 520 network identifier,
- 525 network use window,
- 530 remaining bandwidth

Fig. 5

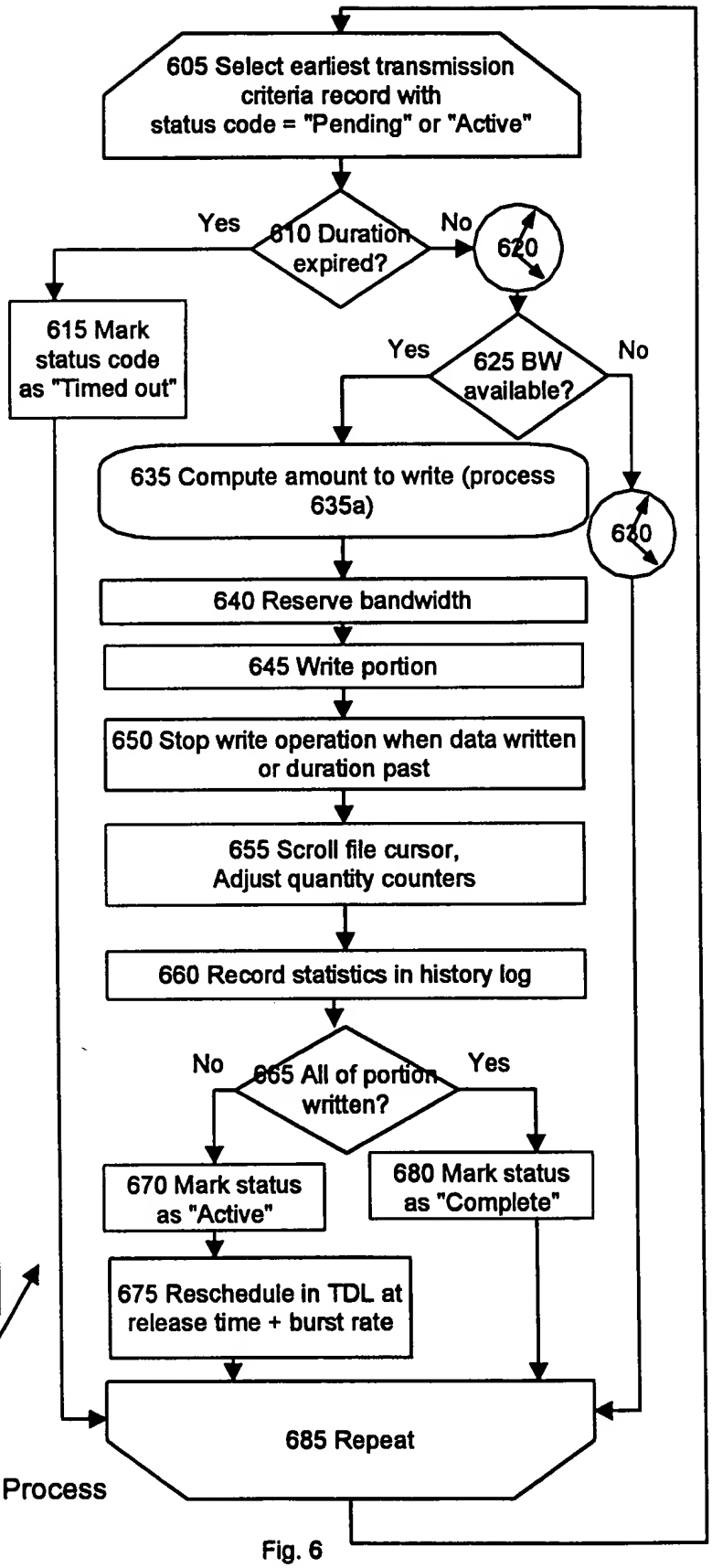

Fig. 6

Docket No. 50277-0800

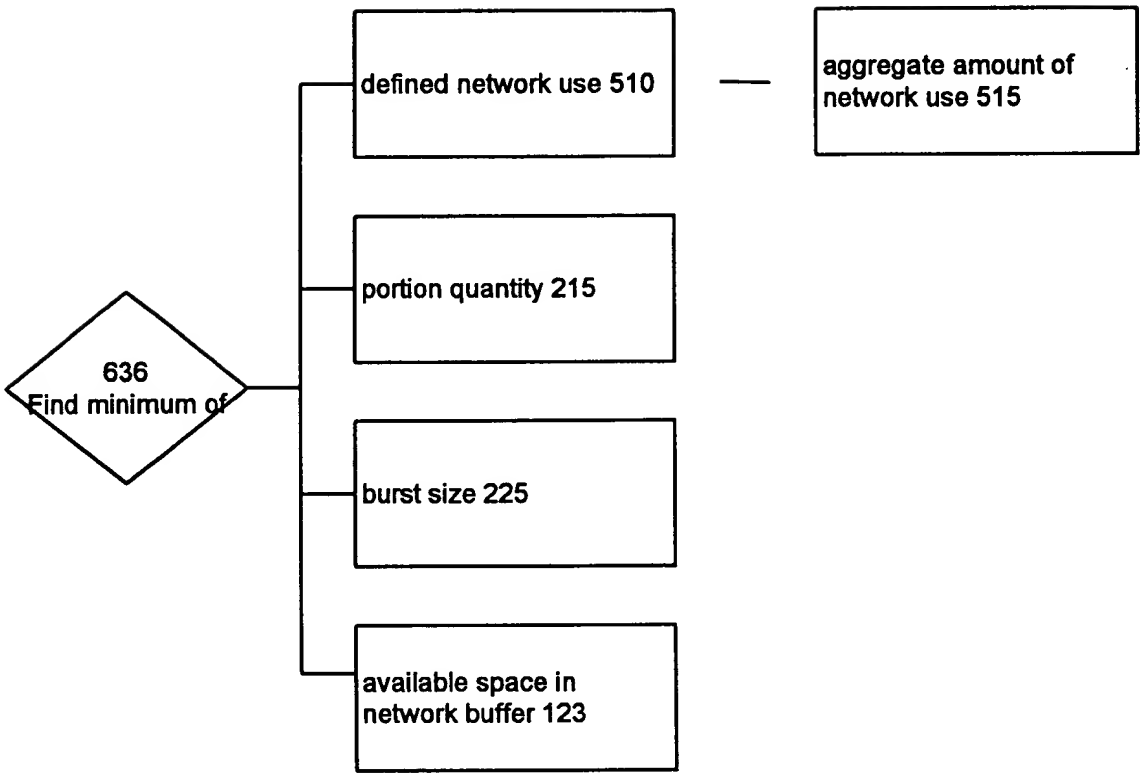

Figure 6A

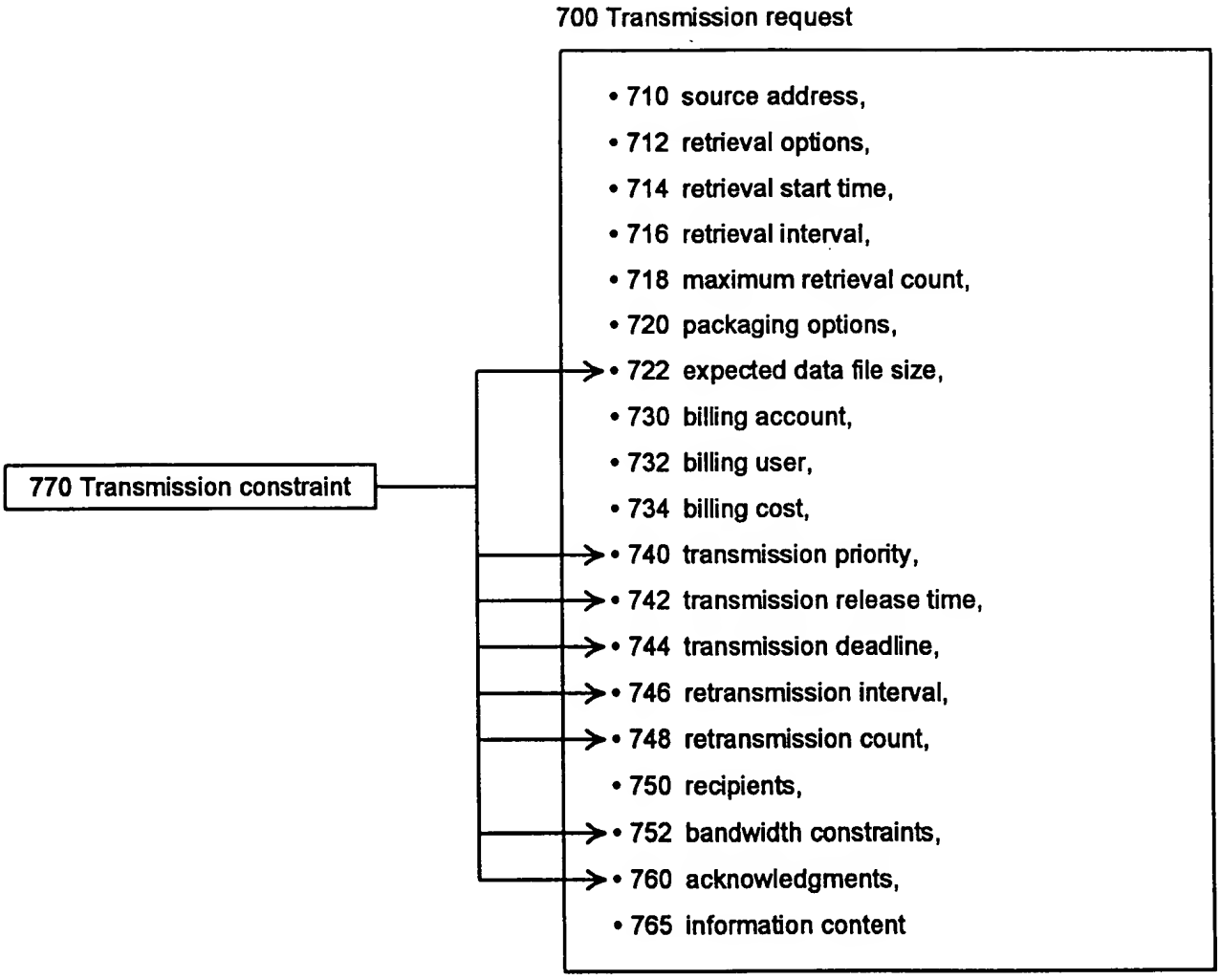
700 Transmission request
• 710 source address,
• 712 retrieval options,
• 714 retrieval start time,
• 716 retrieval interval,
• 718 maximum retrieval count,
• 720 packaging options,
• 722 expected data file size,
• 730 billing account,
• 732 billing user,
• 734 billing cost,
• 740 transmission priority,
• 742 transmission release time,
• 744 transmission deadline,
• 746 retransmission interval,
• 748 retransmission count,
• 750 recipients,
• 752 bandwidth constraints,
• 760 acknowledgments,
• 765 information content
770 Transmission constraint

Figure 7

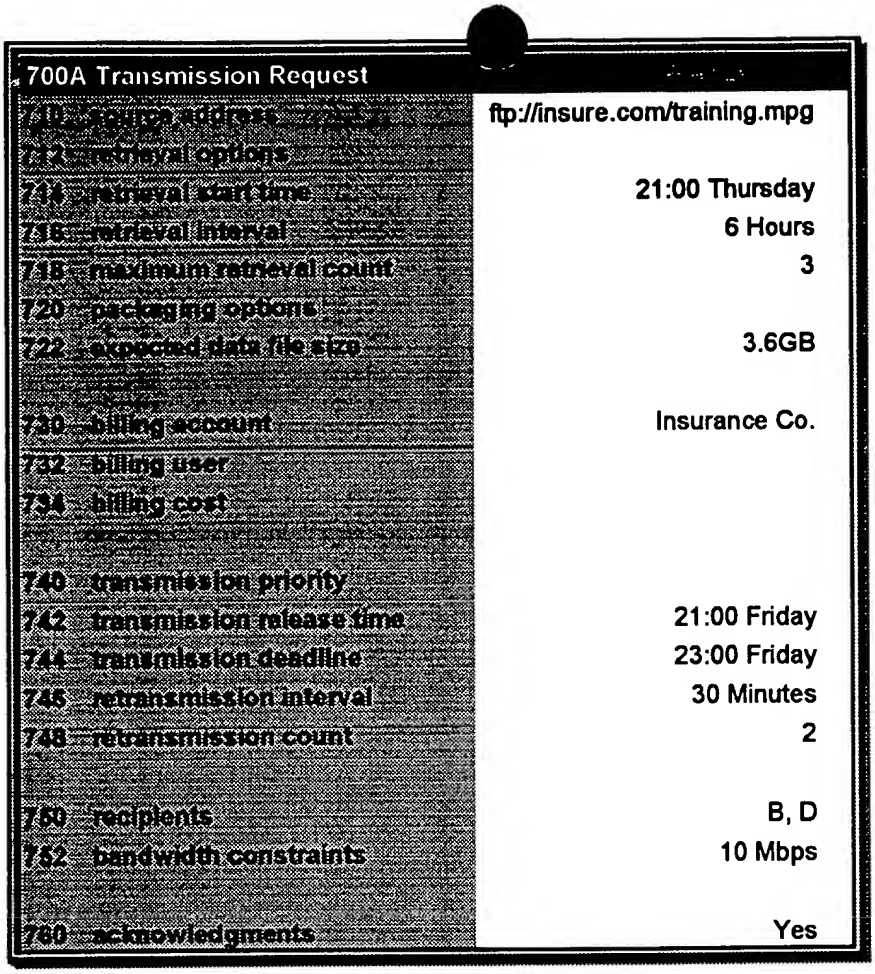
700A Transmission Request
710 - source address
712 - retrieval options
714 - retrieval start time
716 - retrieval interval
718 - maximum retrieval count
720 - packaging options
722 - expected data file size
730 - billing account
732 - billing user
734 - billing cost
740 - transmission priority
742 - transmission release time
744 - transmission deadline
745 - retransmission interval
748 - retransmission count
750 - recipients
752 - bandwidth constraints
760 - acknowledgments
ftp://insure.com/training.mpg
21:00 Thursday
6 Hours
3
3.6GB
Insurance Co.
21:00 Friday
23:00 Friday
30 Minutes
2
B, D
10 Mbps
Yes

Figure 7A

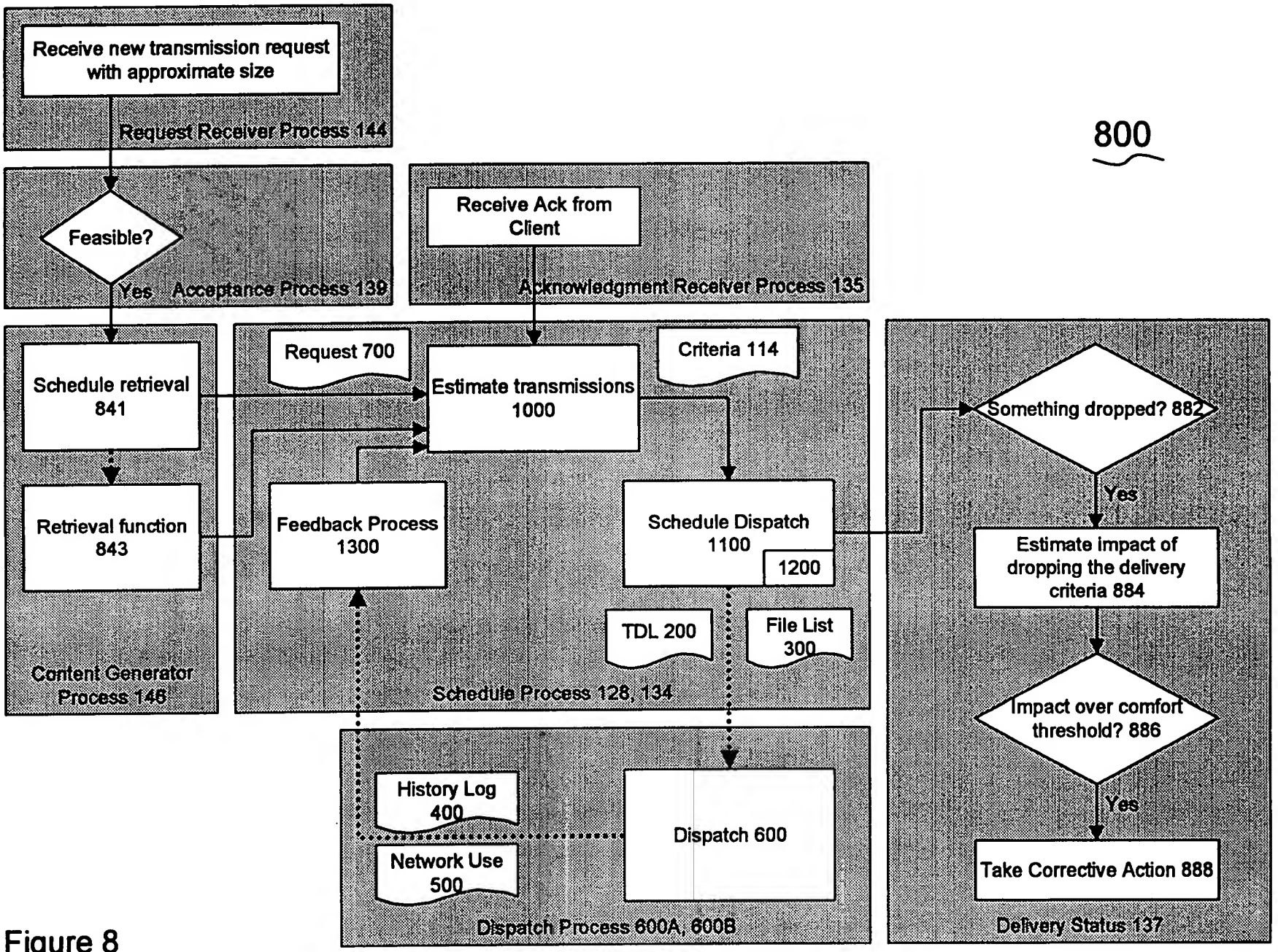
Receive new transmission request with approximate size
Request Receiver Process 144
800
Feasible?
Yes
Acceptance Process 139
Receive Ack from Client
Acknowledgment Receiver Process 135
Schedule retrieval 841
Retrieval function 843
Content Generator Process 146
Request 700
Estimate transmissions 1000
Criteria 114
Feedback Process 1300
Schedule Dispatch 1100
1200
TDL 200
File List 300
Schedule Process 128, 134
Something dropped? 882
Yes
Estimate impact of dropping the delivery criteria 884
Impact over comfort threshold? 886
Yes
Take Corrective Action 888
Delivery Status 137
History Log 400
Network Use 500
Dispatch 600
Dispatch Process 600A, 600B

Figure 8

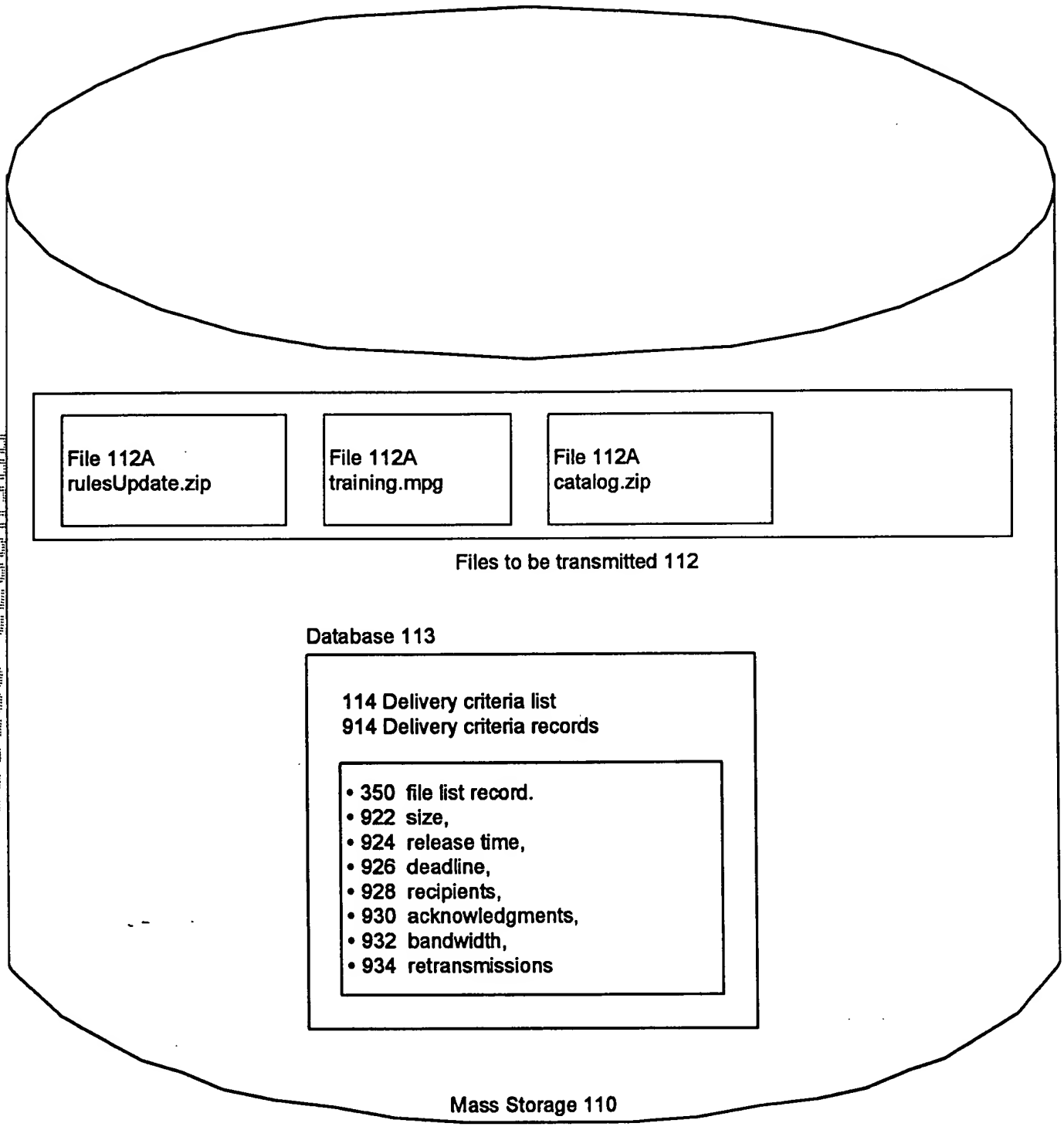
File 112A
rulesUpdate.zip
File 112A
training.mpg
File 112A
catalog.zip
Files to be transmitted 112
Database 113
114 Delivery criteria list
914 Delivery criteria records
• 350 file list record.
• 922 size,
• 924 release time,
• 926 deadline,
• 928 recipients,
• 930 acknowledgments,
• 932 bandwidth,
• 934 retransmissions
Mass Storage 110

Figure 9

Delivery criteria list 114

	910(x10) file identifier	922 size	924 release time	926 deadline	928 recipients	930 ack	932 bandwidth	934 retrans
914A	training.mpg	3.6GB	21:00 Fri.	23:00 Fri.	B, D	Yes	10 Mbps	2
914B	training.mpg	3.6GB	21:30 Fri.	23:00 Fri.	B, D	Yes	10 Mbps	1
914C	training.mpg	3.6GB	22:00 Fri.	23:00 Fri.	B, D	Yes	10 Mbps	0
914D	rulesUpdate.zip	375MB	21:30 Fri.	22:00 Fri.	A,B	No	5 Mbps	0
914E	catalog.zip	750MB	22:00 Fri.	22:30 Fri.	C	No	10 Mbps	0

Figure 9A

Docket No. 2003-0168

Docket No. 50325-0800

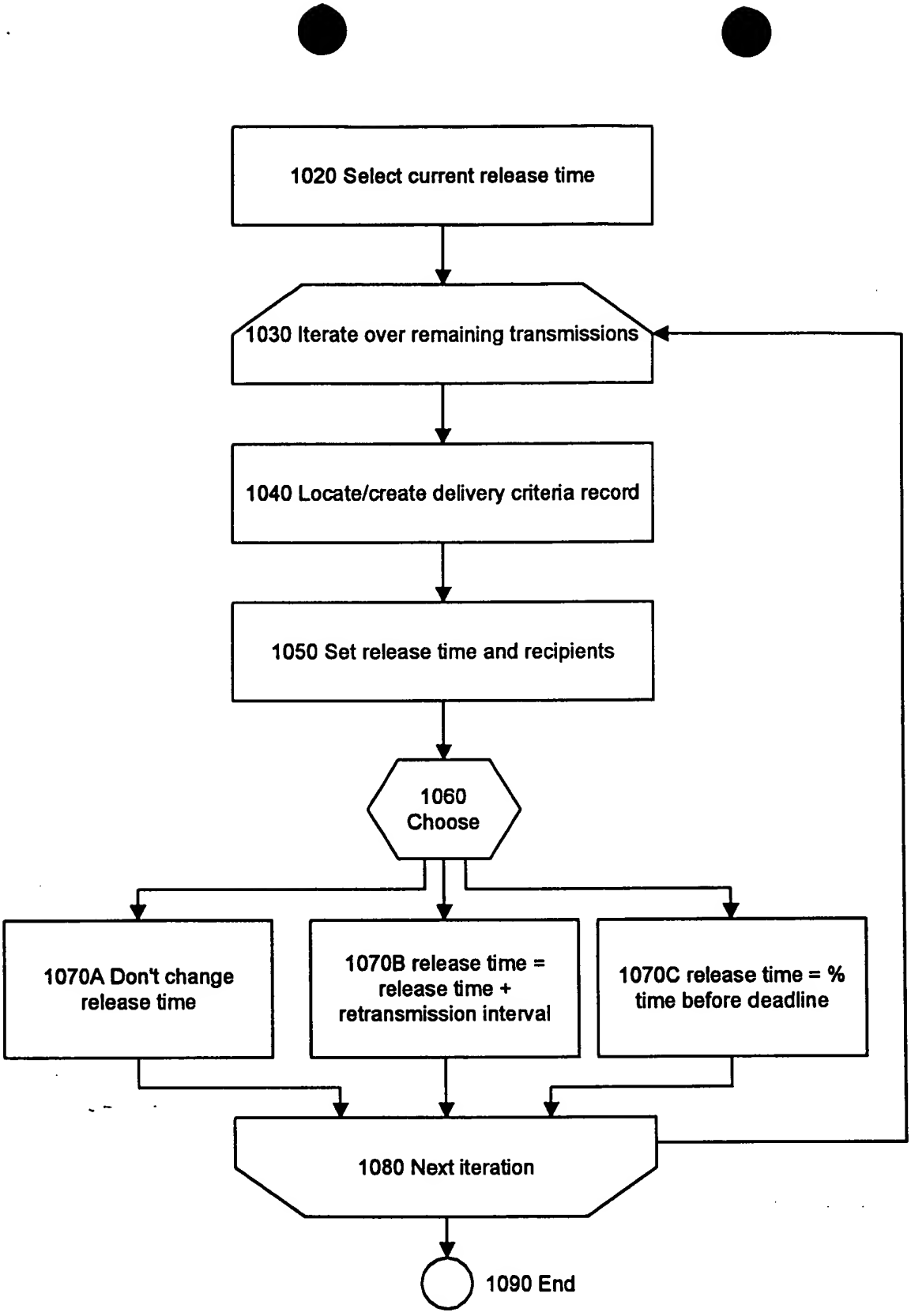

Figure 10

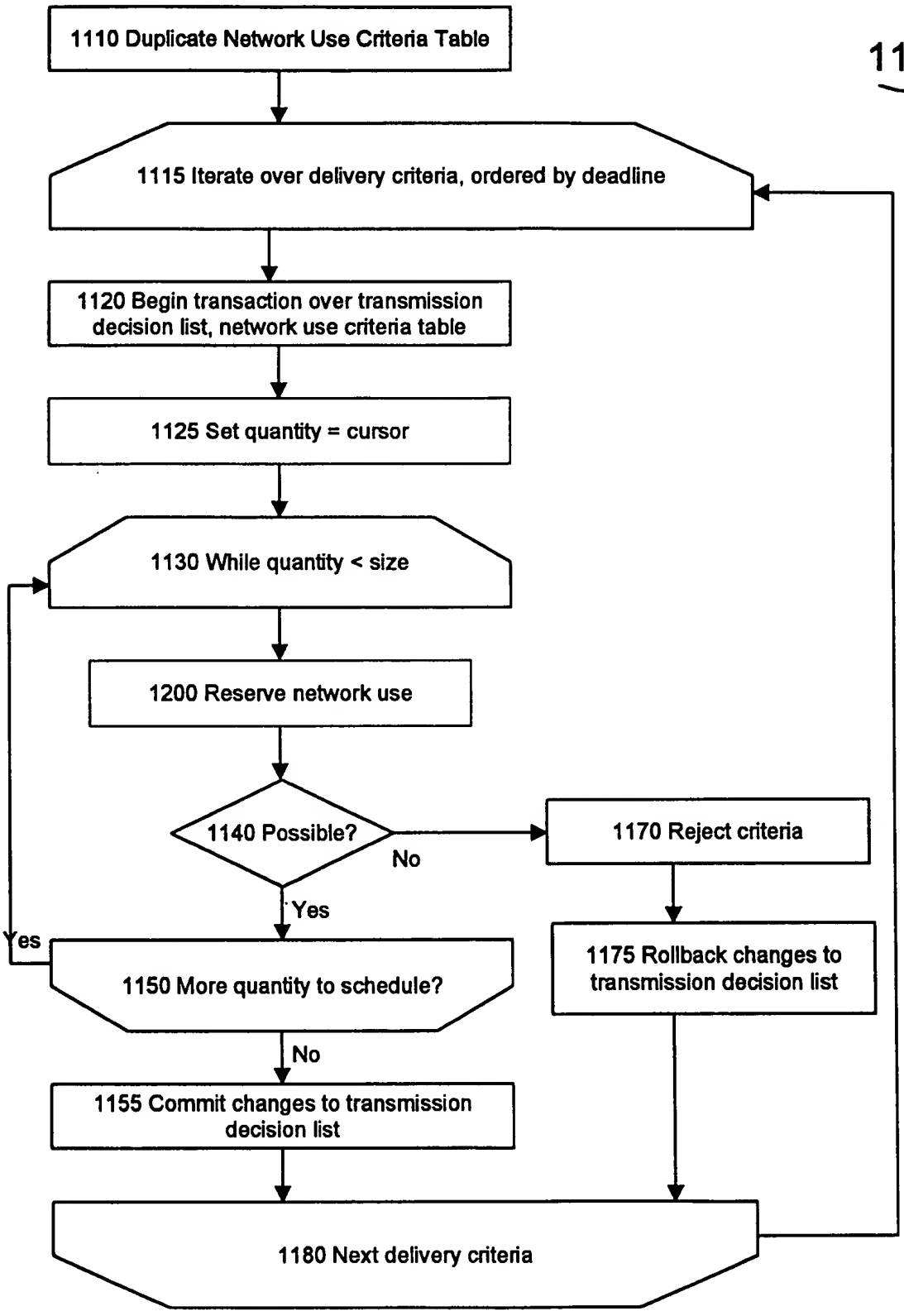
1100
1110 Duplicate Network Use Criteria Table
1115 Iterate over delivery criteria, ordered by deadline
1120 Begin transaction over transmission decision list, network use criteria table
1125 Set quantity = cursor
1130 While quantity < size
1200 Reserve network use
1140 Possible?
No
1170 Reject criteria
Yes
1175 Rollback changes to transmission decision list
Yes
1150 More quantity to schedule?
No
1155 Commit changes to transmission decision list
1180 Next delivery criteria

Figure 11

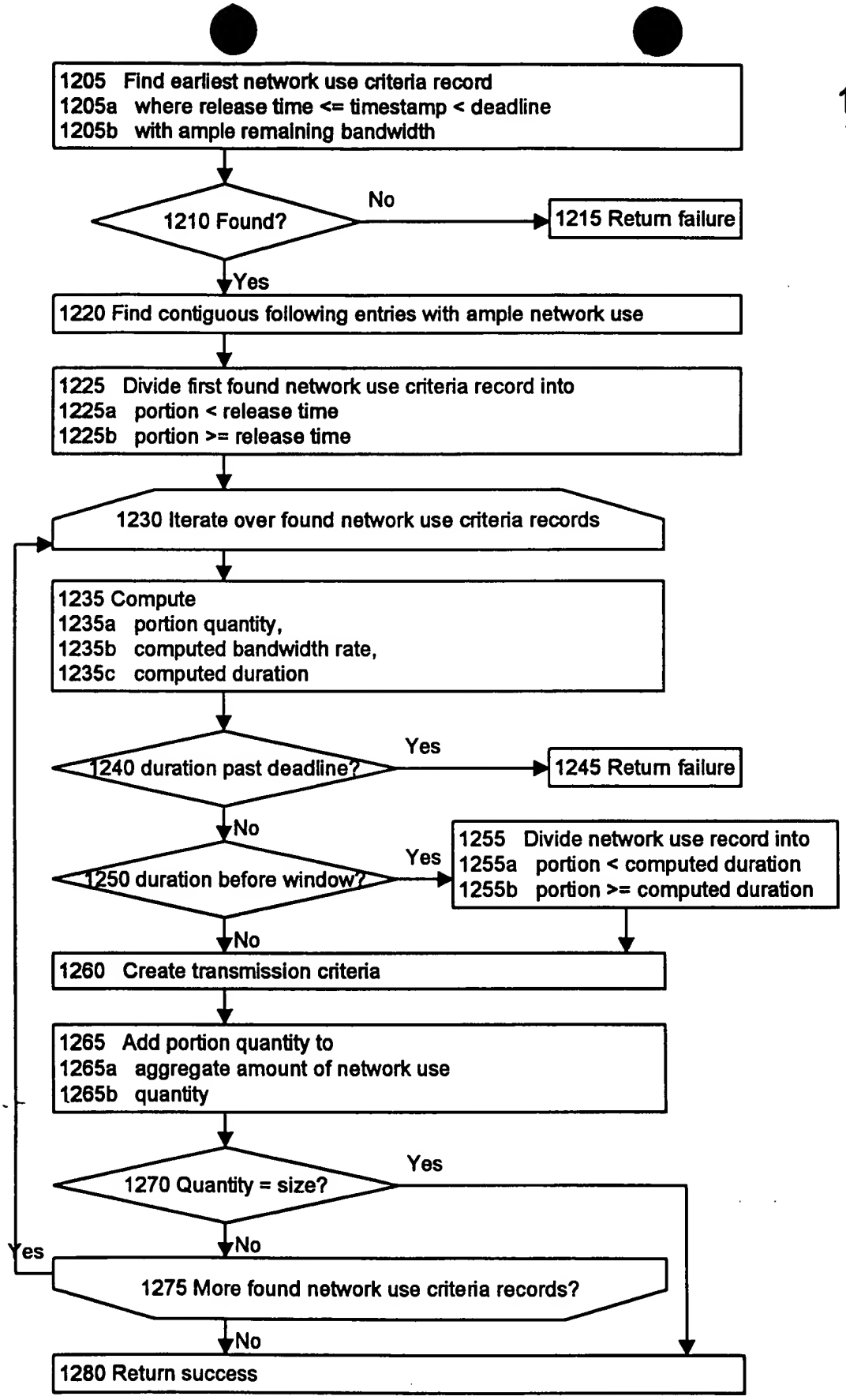
1200
1205 Find earliest network use criteria record
1205a where release time <= timestamp < deadline
1205b with ample remaining bandwidth
1210 Found?
No
1215 Return failure
Yes
1220 Find contiguous following entries with ample network use
1225 Divide first found network use criteria record into
1225a portion < release time
1225b portion >= release time
1230 Iterate over found network use criteria records
1235 Compute
1235a portion quantity,
1235b computed bandwidth rate,
1235c computed duration
1240 duration past deadline?
Yes
1245 Return failure
No
1250 duration before window?
Yes
1255 Divide network use record into
1255a portion < computed duration
1255b portion >= computed duration
No
1260 Create transmission criteria
1265 Add portion quantity to
1265a aggregate amount of network use
1265b quantity
1270 Quantity = size?
Yes
No
Yes
1275 More found network use criteria records?
No
1280 Return success

Figure 12

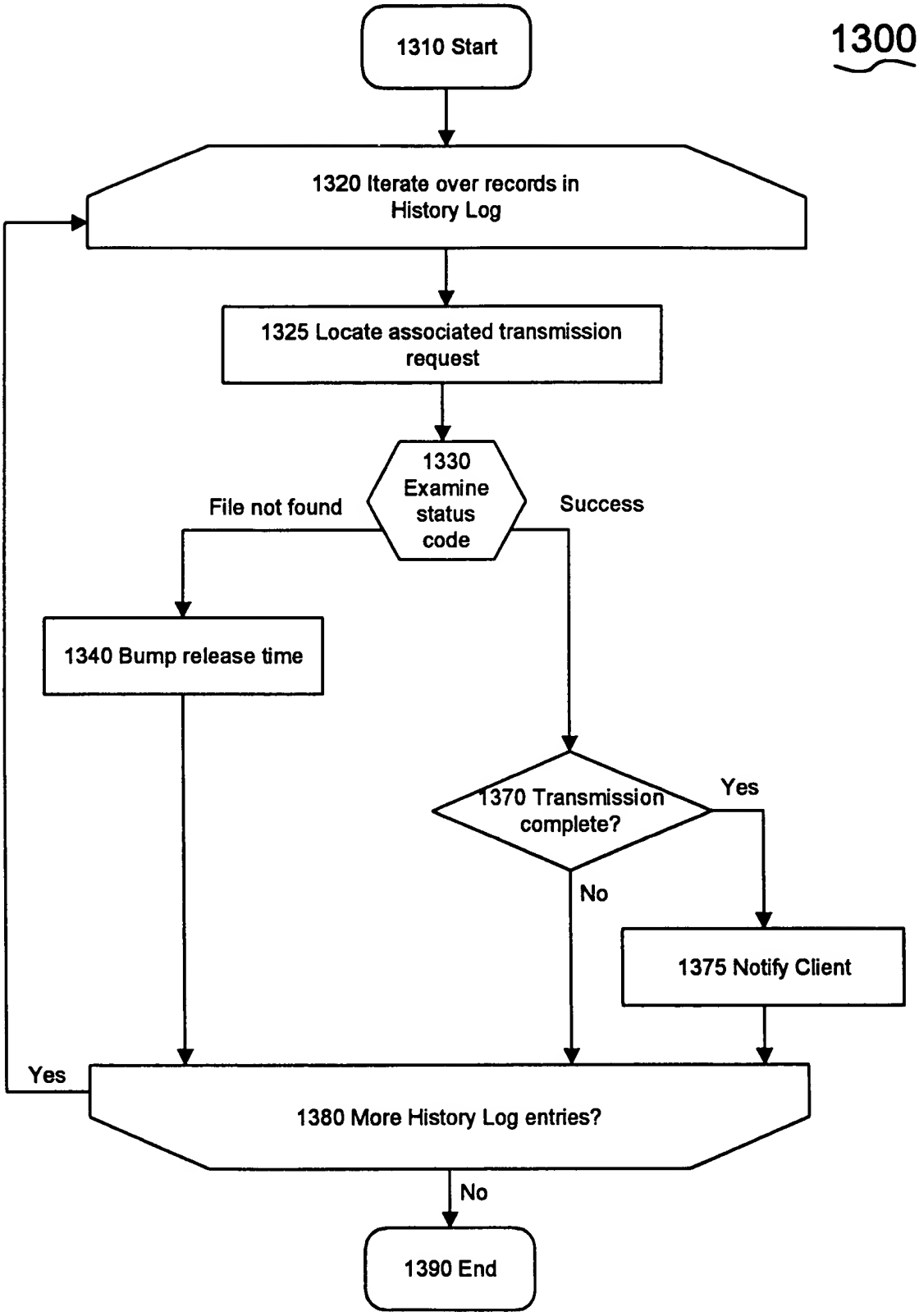
1300
1310 Start
1320 Iterate over records in History Log
1325 Locate associated transmission request
1330 Examine status code
File not found
Success
1340 Bump release time
1370 Transmission complete?
Yes
No
1375 Notify Client
Yes
1380 More History Log entries?
No
1390 End

Figure 13

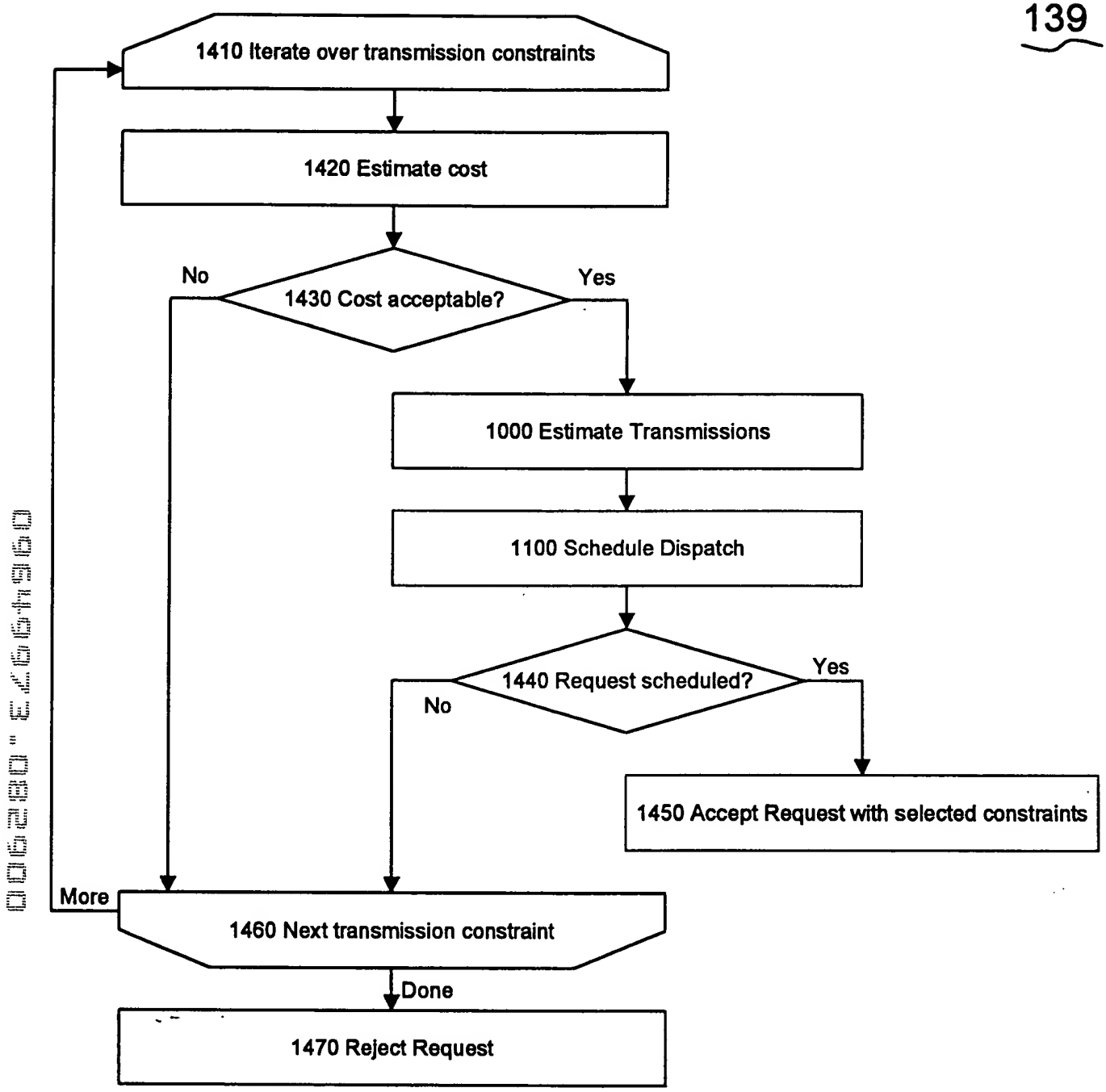
1410 Iterate over transmission constraints
1420 Estimate cost
No
1430 Cost acceptable?
Yes
1000 Estimate Transmissions
1100 Schedule Dispatch
1440 Request scheduled?
Yes
No
1450 Accept Request with selected constraints
More
1460 Next transmission constraint
Done
1470 Reject Request

Figure 14